

## ABSTRACT

A voltage sensing circuit includes a bandgap generator that generates a bandgap voltage, and a monitoring unit that determines whether the bandgap generator is adequately powered. The bandgap voltage is used as a reference voltage for comparison with a voltage to be sensed; alternatively, a separate reference voltage is derived from the bandgap voltage. In the latter case, the circuit that derives the reference voltage amplifies the bandgap voltage, using a differential amplifier biased according to a bias voltage derived from the bandgap generator, and has a compensation circuit for compensating for amplifier offset due to variations in the bias voltage. In either case, if the monitoring unit decides that the bandgap generator is inadequately powered, it forces the sensing result signal to a fixed state, avoiding the output of erratic sensing results.